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A NEW SPECIES OF *LASSENIA* (PROSTIGMATA TANAUPODOIDEA TANAUPODIDAE) FROM MONTENEGRO AND NOTES ON TWO OTHER *LASSENIA*

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Haitlinger R., Šundić M. – A new species of *Lassenia* (Prostigmata Tanaupodoidea Tanaupodidae) from Montenegro and notes on two other *Lassenia.*

A new species of *Lassenia* from Montenegro, *Lassenia novoseljensis* n. sp. is described and illustrated. It is the sixth species of the world and third species of Europe. Corrected data and new measurements for *L. xymenae* and *L. castronuoviensis* are given.

KEY WORDS: Trombidiformes, Parasitengona, *Lassenia novoseljensis*, *L. xymenae, L castronuoviensis.*

INTRODUCTION

Larvae of the genus *Lassenia* Newell, 1957 are probably associated with Diptera living in subaquatic environments (ZHANG, 1988). The genus includes five species: *Lassenia lasseni* Newell, 1957 from California , USA, *L. scutellata* Newell, 1957 from Oregon, USA, *L. furcasetosa* Zhang, 1988 from China, *L. xymenae* Haitlinger, 1995 from Austria and Poland and *L. castronuoviensis* Haitlinger, 2012 from Sicily, Italy (NEWELL, 1957, ZHANG, 1988, HAITLINGER, 1995; 2007; 2012). In this paper we describe a new *Lassenia* species from Montenegro and corrected data and new measurements for *L. xymenae* and *L. castronuoviensis* are given.

MATERIAL AND METHODS

Six larvae were collected in Novoselje, Montenegro, from herbaceous plants. The specimens were collected by M. Šundić in a sweep net and preserved in 70% ethanol. Mite specimens were cleared in Nesbitt's solution and mounted in Faure medium. All measurements are given in micrometers (μ) using microscope NIKON Eclipse 80i. Figures were drawn using Carl Zeiss Axio Imager A2 with differential interference contrast and phase contrast. The terminology and abbreviations follow HAITLINGER (1999; 2013) and WOHLTMANN *et al.*(2007).

Family Tanaupodidae Thor, 1935

Lassenia novoseljensis n. sp.

Type-host: unknown.
Type-locality: Novoselje n. Petrovac, 10 June 2014, Montenegro.
Type-material: 6 larvae, holotype and three paratypes deposited at the Museum of Natural History, Podgorica, Montenegro, one paratype deposited in the Museum of Natural History of the Faculty of Biology and Animal Sciences, Wrocław University of Environmental and Life Sciences, Wrocław, Poland and one paratype in Invertebrate collection, Biology Center of the Upper Austrian Museum, Linz, Austria.

ETYMOLOGY - The species was named after the place where holotype was collected.

DIAGNOSIS - fD 18, fV 10, L 86 (80-102), W (89 (88-112), AW 71 (71-79), PW 57 (57-69), Ta I 103 (99-108), Ti III 82 (73-88), φ on Ti I 4-5.

DESCRIPTION (FIGS. I-IV)

Larva (based on holotype) - Dorsum with 20 slightly barbed setae placed on small platelets (in paratypes). Dorsal setae slightly variable in length (45-61). Eyes 2+2, circular, placed on ocular sclerites (Fig. I, 1). Scutum consisting of a small anterior plate with a pair of sensilla (ASE) and posterior part with two pairs of scutalae and a pair of sensillary setae (PSE) both sensillae in distal half with very short setules. Small anterior part of scutum oval, slightly separate from posterior part of scutum. Anterior border of posterior part of scutum concave, its posterior border slightly rounded. Scutalae AL and PL with very short setules. AL < PL, ASE < PSE (Fig. II).

Ventral side of idiosoma with barbed setae *1a* out of coxa, a pair of bifurcate nude setae *3a*, and 10 setae posterior to coxae III, all nude. Coxae I with one nude seta *1b*, coxae II with one bifurcate nude seta (*2b*) and coxae III with one simple seta *(3b)*. Anal plate with two pairs of nude setae (Fig. I, 2). Gnathosoma short bearing two pairs of nude setae *as* shorter than *bs* (Table 1), and two short and nude galealae (*cs*). Palpfemur with 2 slightly barbed setae, palpgenu with 1 slightly barbed seta and palptibia with 2 slightly barbed and 1 nude setae and short odontus (OD) (Fig. III, 1). Palptarsus with 8 setae (including ω and ζ), among normal setae 4 are nude and two setae are barbed (Fig. III, 2).

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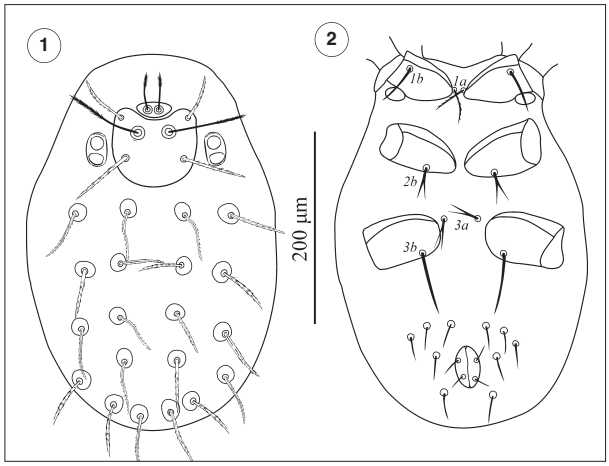

Fig. I – *Lassenia novoseljensis* n. sp., larva. - 1, idiosoma, dorsal view; - 2, idiosoma, ventral view.

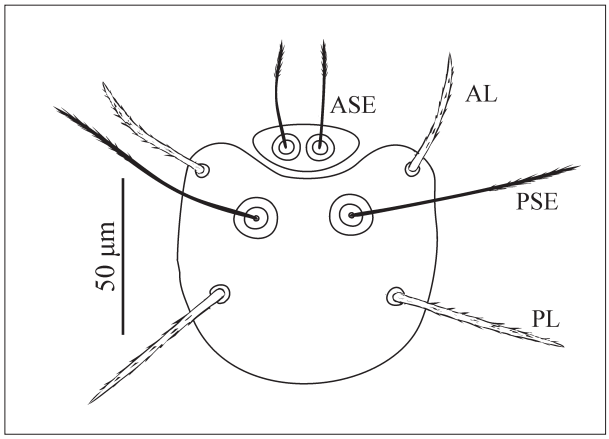

Fig. II – *Lassenia novoseljensis* n. sp., larva: scutum.

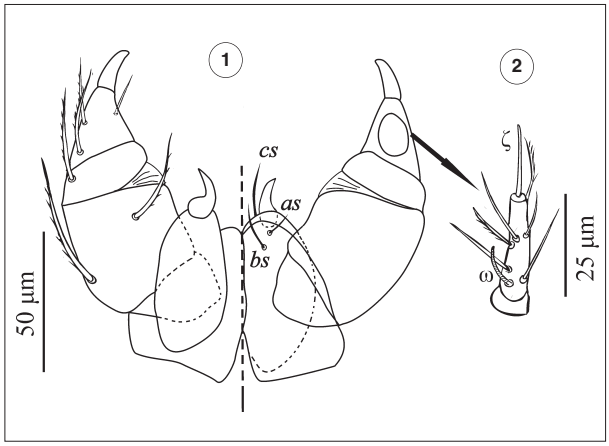

Fig. III – *Lassenia novoseljensis* n. sp., larva:- 1, gnathosoma; - 2, palptarsus.

Table 1 – Metric data for *Lassenia novoseljensis* n. sp. (a: holotype), (b – f: paratypes)

	a	b	c	d	e	f	Range
IL	389	583	359	436	331	380	331-583
IW	262	479	284	353	277	310	262-479
L	86	102	80	92	90	88	80-102
W	89	112	88	103	92	90	88-112
AW	71	78	72	79	71	74	71-79
PW	57	58	63	69	57	60	57-69
AL	46	52	56	47	47	49	46-56
PL	61	61	65	57	64	61	57-65
ASE	36	36	38	39	37	36	36-39
PSE	78	78	76	82	76	80	76-80
ISD	25	45	31	36	30	33	25-45
AP	42	48	46	45	40	44	42-48
AA	12	15	15	14	14	14	12-15
SB	32	38	31	33	30	31	30-38
GL	78	77	76	70	74	77	70-78
DS	48-57	45-60	49-61	46-58	45-61	46-58	45-61
PsFd	47*	51*	51*	43*	44*	47*	43*- 51*
PsFd	39**	38**	43**	35**	39**	39**	35**- 43**
PsGd	39	42	42	40	40	41	39-42
1a	31	35	36	38	30	35	31-38
3a	25	28	23	21	24	23	21-28
1b	42	42	44	46	36	42	36-46
2b	27	29	31	28	31	31	27-31
3b	67	65	65	63	61	64	61-67
cs	13	15	14	13	12	13	12-15
as	9	8	9	10	9	10	8-10
bs	13	13	14	13	13	14	13-14
OD	16	18	18	18	17	16	16-18
PaFe (W)	39	39	45	44	40	45	39-45
PaFe (L)	47	46	45	45	43	47	43-47
PaGe (L)	13	14	13	12	14	13	12-14
PaGe (W)	34	35	37	37	34	35	34-37
Ta I	103	108	107	99	101	102	99-108
Ti I	66	64	67	64	59	64	59-67
Ge I	48	50	47	49	50	52	47-52
Fe I	73	78	82	72	74	77	72-82
Tr I	39	44	36	35	30	40	30-44
Cx I	67	75	75	71	72	68	67-75
Ta II	93	92	86	87	90	90	86-93
Ti II	58	55	60	57	55	58	55-60
Ge II	43	47	47	44	42	44	42-47
Fe II	65	71	70	69	69	64	64-71
Tr II	37	44	37	34	33	38	33-44
Cx II	77	81	84	84	73	83	73-84
Ta III	96	99	95	97	96	96	95-99
Ti III	82	79	88	76	73	83	79-88
Ge III	52	50	53	53	55	55	50-55
Fe III	74	77	72	70	70	75	70-77
Tr III	48	54	43	42	46	50	42-54
Cx III	80	79	86	84	76	82	76-86
Leg I	396	419	414	390	386	403	386-419
Leg II	373	390	384	375	362	377	373-390
Leg III	432	438	437	422	416	441	416-441
IP	1201	1247	1235	1187	1164	1221	1164-1247

* dorsolateral seta, ** dorsoventral seta

Leg setal formula: Leg I: Ta 1ω, 1ε, 1Cp, 2ζ, 22H-22-23P; Ti 1ϰ, 1Cp, 4ϕ (one paratype 5ϕ), 8; Ge 2σ, 1ϰ, 4; Fe 6; Tr 1; Cx 1 (Fig. I, 2 and Fig. IV, 1). Leg II: Ta 1ω, 1ε, 2ζ, 20 holotype, (19-20 paratypes); Ti 2ϕ, 9; Ge 1ϰ, 1σ, 4; Fe 6; Tr 1; Cx 1 (Fig. I, 2 and Fig. IV 2). Leg III: Ta 1ζ, 20H,19-20P; Ti 1ϕ, 9; Ge 1σ, 4; Fe 5; Tr 1; Cx 1 (Fig. I, 2 and Fig. IV,3). Tibia I with 3 short solenidia and one long solenidion with companion seta.

DIFFERENTIAL DIAGNOSIS

Lassenia novoseljensis n. sp. differs from *L. lasseni* in fD (20 s. 48-53), fPp (0-2N-1N-3N-1ω-1ζ-4B 2N vs. 0-1 -2 -5N-1N-3N-1 -2 -5N), leg I Fe (6 vs. 10), Ge (4 vs. 8), Ti (4ϕ, 8 vs. 13ϕ, 1ϰ, 16), Ta (22-23 vs. 59), leg II Cx (1 vs. 2), Tr (1 vs. 3), Fe (6 vs. 10-12, Ge (4 vs. 8), Ti (2ϕ, 8 vs. 4-5ϕ, 17), Ta (22-23 vs. 43), leg III: Cx (1 vs. 3), Tr (1 vs. 3-4), Fe (5 vs. 9-10), Ge (1σ, 4 vs. 8), Ti (1ϕ, 8 vs. 3ϕ, 15);

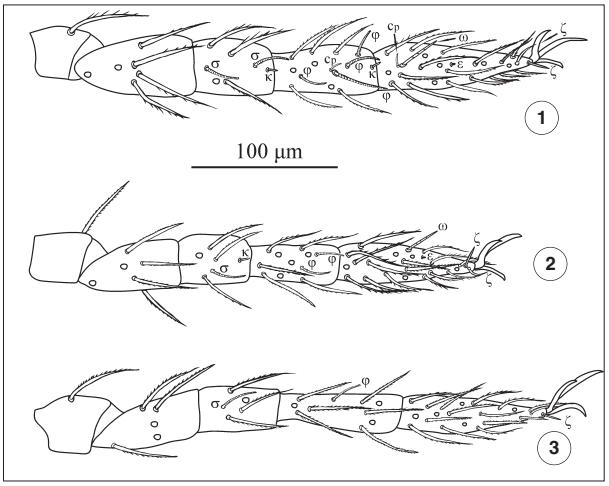

Fig. IV – *Lassenia novoseljensis* n. sp., larva: - 1, leg I; - 2, leg II; - 3, leg III.

from *L. scutellata* in fV (10 vs. 16), fPp (0-2N-1N-3N-1ω,1ζ, 9B, 2N vs. 0-2N-1N-3B-1ω, 2ζ, 9B), seta *2b* bifurcate vs. seta *2b* simple, Ge I (4 vs. 5), Ge II (1ϰ, 4 vs. 1σ, 1ϰ, 4), Ti I (4φ vs. 5), Ta I (22-23 vs. 36), Ta II (22-23 vs. 29, ASE < AL, PL vs. ASE > AL, PL; from *L. furcasetosa* in the shorter AW (71-79 vs. 87-96), AL (46-56 vs. 62-72), PL (57-65 vs. 76-85), S (76-80 vs. 85-90), leg I (386-419 vs. 470-495), leg II (373-390 vs. 440-460), leg III (416-441 vs. 495-525), IP (1164-1247 vs. 1420-1465), fnCx (NN-B-N vs. NN-B-BN) and fnPt (BBBBNNωζ vs. BBBBBBBωζζ); from *L. xymenae* in the shorter L (80-102 vs. 112-116), PL (57-65 vs. 80), DS (45-61 vs. 62-76), *1a* (B vs. N), fnCx (NN-B-N vs. NN-NN-N) and *3a* bifurcate vs. *3a* nude and from *L. castronuoviensis* in the shorter AW (78 vs. 90), PW (57-69 vs. 78), PL (57-65 vs. 85), OD (16-18 vs. 36), Ta I (99-108 vs. 136), leg I (386-419 vs. 508), leg II (373-390 vs. 454), leg III (416-441 vs. 512), IP (1164-1247 vs. 1474)), seta *3a* bifurcate vs. seta *3a* nude and seta *2b* bifurcate vs. seta *2b* simple.

Lassenia xymenae Haitlinger, 1995

The following features are corrected and measurements added (for holotype): seta *1a* nude, anal plate with 4 nude setae, leg I: Ta 1ω, 1ε, 2 , 25, Ti 4φ, 1ϰ, 8; Ge 2σ, 1ϰ, 4; leg II Ta 1ω, 1ε, 2ζ, 22; Ti 2φ, 9; leg III Ta 1ζ, 20; Ti 1φ, 8. Palptarsus: 1ω, 1ζ, 5N, 1B. OD 19, *cs* 13, *as1* 10, *as2* 14, PsFd 62d, 46, PsGd 45, PaFe (L) 49, PaFe (W) 46, PaGe (L) 14, PaGe (W) 36.

Lassenia castronuoviensis Haitlinger, 2012

The following features are corrected and measurements added: leg I Ti 4φ, 1ϰ, 7; leg II Ti 2φ, 8. OD 36, *cs* 13, *as1* 6, *as2* 13, PaFe (W) 36, PaFe (L) 48, PaGe (L) 17, PaGe (W) 39, *3a* 21.

Key to *Lassenia* of the world

1. Dorsum with more than 40 setae ..... *L. lasseni* Newell
- Dorsum with less than 30 setae ..... 2.

2. All coxalae simple ..... 4.
- Some coxalae bifurcate ..... 3.

3. fnCx 2-1-2, coxala *2b* and anterior seta on coxae III bifid ..... *L. furcasetosa* Zhang
- fnCx 1-1-1, only coxala *2b* bifid ..... *L. novoseljensis* n. sp.

4. fnCx 2-1-2 ..... *L. scutellata* Newell
- fn Cx other ..... 5.

5. fnCx 2-2-1, fV <14 ..... *L. xymenae* Haitlinger
- fnCx 2-1-1, fV > 16 ..... *L. castronuoviensis* Haitlinger

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